

**A STUDY TO EVALUATE THE EFFECTIVENESS OF MUSIC
THERAPY IN REDUCING PAIN PERCEPTION DURING FIRST
STAGE OF LABOUR AMONG PRIMI MOTHERS IN SIVAKASI
MATERNITY CENTER AT MADURAI.**



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ABSTRACT

A quasi experimental study to evaluate the effectiveness of music therapy in reducing pain perception during first stage of labour among primi mothers in Sivakasi Maternity center at Madurai, was taken by A. Sudha Bharathi, in the partial fulfillment of the degree of Master of Science in Nursing, affiliated to the Tamil Nadu Dr. M.G.R Medical University, Chennai.

The objectives of the study were,

1. To assess the level of labour pain perception after music therapy among primi mothers during labor in experimental group.
2. To assess the level of labour pain perception among primi mothers during labor in control group.
3. To find the difference between pre and post test level of labour pain in experimental and control group
4. To find out the association between the level of labour pain among experimental & control group of primi mother with selected demographic variables.

Hypothesis were,

- H₁₀:** There is significant difference between pre and post test level of labor pain perception during first stage of labor in experimental group and control group among primi mothers.
- H₂₀:** There is no significant difference between pre and post test level of labor pain perception during first stage of labor in experimental group and control group among primi mothers.

The present study based on Gate control theory (1965). The Gate control theory first postulated by Ronald Melzack and Patric David Wall . The gate control theory frame work permits to assess the demographic variable related to labor pain perception and give the intervention to close the gate and reduce the labor pain perception.

The review of literature was done and organized based on review related to pain perception of primi mother in labor, review related to music therapy, review related to effect of music therapy on labor pain perception.

Experimental approach, in that the two-group, pretest, post test quasi experimental design without randomization was adopted.

The content validity was not necessary because, it is a standardized tool, used an Indian set up. Both the subject and the language experts have validated the tool. These experts included doctors specialized in obstetrics and gynecology, musician and seven nursing experts specialized in maternity nursing.

A pilot study was conducted in Primary Health center at Thiruparangundrum among 6 primi mothers who fulfilled the criteria of sample selection, who were other than study sample on 6 subjects (three in each experimental and control group).

The data collection was done for four weeks in the Sivakasi Maternity center, Madurai. The sample size was 60. Every day on an average 2-3 subjects were selected by purposive sampling for experimental and control group.

The statistical analyses based on objectives and hypotheses the data collected were analyzed by using both descriptive and inferential statistics. The level of significance used to test the hypotheses was 0.05. The findings of the study explained that 93% of mother had moderate pain in experimental group and the 70% of mother had severe pain in control group. There by music therapy is effective in reducing the level of labor pain perception. There was no significant association between labor pain perception and selected demographic variables of mother in labor except, level of pain tolerance significant is 0.000.

Implications were made in nursing practice, nursing education, nursing administration and nursing research. Recommendations are the study can conduct in a large size, comparative study can conduct with other alternative therapy like oil massage, breathing exercise etc., comparative study can conduct with primi and multi gravida mothers.

CHAPTER – I

INTRODUCTION

Pain in labor is a nearly universal experience. Pregnant women commonly worry about the pain they will experience during labor and child birth. The discomfort as experienced during labor has specific origins. During the first stage of labor uterine contractions cause cervical dilatation, effacement and uterine ischemia resulting from contraction of the arteries to the Myometrium. The discomfort from cervical changes and uterine ischemia is visceral pain.

Pain thresholds cause the amount of pain experienced to be unique to each individual. Anxiety and fear are commonly associated with increased pain during labor. Mild anxiety is considered normal for a woman during labor and birth. However excessive anxiety and fear cause more catecholamine secretions, which increases the stimuli to the brain from the pelvis because of decreased blood flow and increased muscle tension, which in turn magnifies the pain, fear and anxiety.

A wide variety of child birth preparation methods can provide a way to help the women cope with the discomfort of labor and many numbers of non-pharmacological strategies are being followed to reduce the labor pain.

The non- pharmacological strategies followed to encourage relaxation and to relieve pain are firstly, cognitive strategies, such as child birth education, music, breathing technique, imagery, use of focal points and hypnosis.

Over the past few decades there has been a growing interest in the use of music, which has seen it used to achieve a diverse range of outcomes (Evans 2002) Music is the science or art of the composition of sounds that are comprehended by the human brain as enjoyable and expressive (Eisenman, Arie M.D 2002).

Throughout the history music has been used for its beneficial influence on people. The bible describes how the shepherd David calmed the mind of King Saul with his harp. The writings of confusions, Plato and Aristotle suggest that music has the ability to produce beneficial effects on people. Ancient Greeks and Romans believed that music had magical charm and power to aid the body and soul in healing.

They worshipped Apollo as the god of both medicine and music. Ancient Egyptians used music to bestow fertility (G Kaempf D.A, Updike 1989).

Even in early nursing history Florence Nightingale used music listening as a nursing intervention. She provided music a part of the healing process for injured soldiers in pain. In her notes on nursing, she describes that, the effect of music upon the sick, has been scarcely at all notice wind instruments including the human voice and stringed instruments capable of continuous sound have generally a beneficent effect - while the piano forte playing has just the reverse.(Florence Nightingale – Notes on Nursing, 1859).

G.feller said that “Music is an universal phenomenon ”.

Music therapy is the systemic application of music in the treatment of physiological and psychological aspects of an illness, or disability.

Although the music has been used to decrease anxiety and discomfort for thousands of years its use in health care settings and as a therapy is relatively new (Podolsky E, Buck Walter K 2000)

SIGNIFICANCE AND NEED FOR THE STUDY:

Child birth is a natural biological process and therefore the pain associated with it is also perceived as normal and natural. The nature of the pain experienced during labor depends on the physical and emotional status of the women. The primi gravid women experience more intense pain during labor compare to multi gravida (Mclazack, Taenzer and Kinch,1981). The primi gravid mothers do not know which the intense level of pain is and how to manage with that because they do not have any past experience.

Pharmacological and non- pharmacological methods are used to reduce the pain perception during labor. Labor and delivery medications may pose risk for the mother, such as hypertension and the fetus as bradycardia, so their use must always be against the alternative risk to the mother.

If a midwife do not give support and care to the mother during labor, that aggravate the anxiety level of the mother, which increases the adrenaline production. Stimulation of anxiety and less relaxation during labor will lead to perception of more labor pain. If a midwife gives adequate support and care to the mother in labor which would reduce the women's anxiety which in turn will decrease adrenaline production. This triggers an increase in the level of Oxytocin (to stimulate labor and endorphin to reduce pain perception).

The job of the nurse during labor is not only to ensure a safe delivery but also to create a positive and satisfying experience. Many simple, effective, low- cost methods to relieve labor pain can be initiated by nurses, midwives, or physicians with the potential benefits of improved labor progress, reduction use of riskier medications, patient satisfaction, and lower costs.

Edgar Cayce (1947) said that music is the medicine of the future, who healed thousands of people while in a Trance state.

Munro and Mount (1978) defined Music therapy as the controlled use of music, its elements and their influences on human to aid in the physiological, psychological and emotional integration of the individual during the treatment of an illness disability.

There are many scientists and researcher was examined music and its effect to reduce pain in a variety of health care setting and clients. Moss.V.A. (1987) said that music as an orderly arrangement of sound consisting of melody, harmony, rhythm, tone and pitch has a very personal and intimate meaning for each individual.. Podolsky E (1954) said that music may have either a calming or stimulating effect.

Siedlecki (2006) said that music treats acute or chronic pain, stress and anxiety. It diverts the person's attention away from the pain and creates a relaxation response.

Stevens (1995) found that health state, degree of alertness or fatigue, degree of familiarity with music used and previous musical experience could have an influence on the effects of music.

Paterson and Zderad (1986) explained that music is an important nursing intervention to promote healing. In nursing practice settings where patterns of care are developed based on evidence, the use of music as an effective intervention can become an integral part of the plan for patient care.

J.Hoffman (1997) said that music as a non pharmacological therapeutic tool, it has been shown to relieve anxiety and pain, increases feelings of relaxation, heightens the immune system, and decrease blood pressure, pulse rate and breathing.

Music can affect emotion through pitch and rhythmic vibratory effects within the limbic system where memories are evoked in response to sensory stimuli. Using soothing music has been shown to reduce stress and feelings of isolation. Listening to music is thought to release endorphins the body's natural opioid pain relievers associated with pleasant emotion and pain relief.

Chlan L Tracy et al 1999 done a study on music as a therapy, clients reported that music improved motivation, elevated mood and emphasized feelings of responsibility and control, and music assists the nurse in manipulating the environment to provide a comforting place for patient.

STATEMENT OF THE PROBLEM:

A quasi experimental study to evaluate the effectiveness of music therapy in reducing pain perception during first stage of labour among primi mothers in Sivakasi Maternity center at Madurai-2011.

OBJECTIVES:

1. To assess the level of labour pain perception after music therapy among primi mothers during labor in experimental group.
2. To assess the level of labour pain perception among primimothers during labor in control group.
3. To find the difference between pre and post test level of labour pain in experimental and control group

4. To find out the association between the level of labour pain among experimental & control group of primi mother with selected demographic variables.

HYPOTHESES:

H₁₀: There is significant difference between pre and post test level of labor pain perception during first stage of labor in experimental group and control group among primi mothers.

H₂₀: There is no significant difference between pre and post test level of labor pain perception during first stage of labor in experimental group and control group among primi mothers.

OPERATIONAL DEFINITION:

Effectiveness:

In this study effectiveness refers to the outcome in terms of reduction in the labour pain with music therapy.

Music therapy:

Music therapy can relax, soothe, decrease pain and provide distraction. By stimulating the release of endorphins music enhances one's sense of well being and decrease the need for pain medication.

Labour pain:

Refers to the pain experienced by the woman in labour is caused by the continuous rhythmic uterine contractions, the dilatations of the cervix and in the late first stage and the second stage by the stretching of the vagina and pelvic floor to accommodate the presenting part.

Primi mothers in labour:

Refers to the mother with full term first pregnancy [who completed 38 weeks] during labour, who is admitted in the labour room in first stage of labour.

ASSUMPTIONS:

1. The labour pain perception differs from mother to mother.
2. The mother's pain level reduce by using intervention like music to diverting the mind from the painful stimuli to listening music and superimpose the painful stimuli.
3. Alternative therapy cannot interfere with the uterine contraction.

DELIMITATIONS:

1. The study is limited primi mother with above 37 weeks of gestation.
2. Measuring the level of pain perception only with colorful visual analog pain Perception scale.
3. Assessment of the level of pain perception is limited to first stage of labour only from the client.

PROJECTED OUTCOME:

This study was conducted to evaluate the effectiveness of music therapy to awaken the interest in non-pharmacological treatment approaches to labour pain, since it has no pharmacological side effects. Finding of this study will help to plan and practice music therapy as a non-invasive nursing intervention in the clinical practice.

CHAPTER-II

REVIEW OF LITERATURE

“A great literature is chiefly a product of inquiring minds in revolt against the immovable certainties of nation”.- Mecken, H.C.

A review of literature is an extensive critical review of the extant literature on the research topic. It is an essential first step in those methodologies that require context to interpret and understand the research problem by locating it within the body of knowledge on the research topic (Worrall and Carelley, 1997).

Review of literature in this study is organized under the following headings:

- ❖ Review related to pain perception of women in labor
- ❖ Review related to music therapy
- ❖ Review related to effect of music therapy on labor pain perception

Review related to pain perception of women in labor:

Wijma.,et.al., (2001) conducted a comparative study on the labor pain among primi para and multipara women during 1st stage of labor. 35 primi parous and 39 multi parous women were selected for the study by using random selection method. Verbal rating scale was used to collect the data. The data was analyzed by mean, SD and ‘t’ test. The result of the study shows the primi para women reported higher level of pain than the multiparous women ($t=0.735$; $p=0.01$). The challenge for staff of a delivery ward is to support the women in labor in a way that decreases fear, which in turn might reduce the women’s need of pain relief.

Cambell and Kurtz., (2000) conducted a descriptive study to evaluate the intensity of the labor pain at the two stages of cervical dilatation, (cervical dilatation of 2-5cm and 6-10cm) at east cardina university, school of nursing, Greeille, 78 women in labor were selected through convenient sampling technique. Using 3 self-reported measures such as VAS, present pain intensity scale and MC Gill pain questionnaire carried out the pain assessment. These were the one observational measure to rate behavioral index of pain. The data were analyzed by descriptive and inferential statistics. The result of the study shows that when the cervical dilation

increased, there was significant increase in self-report and observed pain on all the cited measures ($t=15.72$, $P=0.01$). Pain was characterized as discomforting during early dilation and distressing horrible and excruciating as dilatation progressed.

Basker, Ferguson, Roach and Dawson.,(2001) investigated the perceptions of labor pain by mothers and their attending midwives. The aim of the current study was to examine the perception of pain by laboring women and their attendant midwife, from the onset of labor to delivery. Accurate measurement and appropriate management of pain is a significant problem for attendant medical and nursing personal. Both experience and perception of pain are regarded as subjective and are therefore difficult to measure objectively. Indeed, much of literature reports that pain is often under or over estimated by nursing staff who as a consequent consistently fail to administer adequate analgesia. Few studies have specifically examined the ability of midwives assess the pain of laboring women. The short form of Mc Gill questionnaire (SF-MPQ) routinely used to assess pain in obstetric environments was used to determine pain the perception. 13 laboring women and 9 midwives completed the SF-MPQ. Every 15 minutes beginning at the time of admittance to the delivery suite. Peak pain ratings for the preceding 15 minutes were obtained without reference to prior ratings or each other's scores. Further, midwives in maternity units Queen Elizabeth hospital. Adelaide south Australia completed a survey investigating the cues they use to assess pain during labor. The result of the study were on each measure of pain on the SF-MPQ, the midwives scores correlated with the mother's score across the entire pain range.

Further analysis showed the mother's midwives pain scores were similar at mild moderate pain levels, but midwife significantly under estimated pain intensity at levels that mother's described as severe. The survey responses indicated that midwives rely on both verbal and nonverbal cues to assess the pain levels. The cues used by midwives to differentiate pain intensity and qualities are similar those used in other clinical settings, but may have limited discriminatory value as pain levels become severe.

Lundgren and Dahiberg., (1998) conducted a study on women experience of pain during child birth at department of obstetrics and gynaecology, Sahlgrenska university hospital, Goteberg, Swedon. The objective of the study using the phenomenological approach was used. Data were collected by tape-recorded interviews. The study participants were 9 women, 4 primiparous and 5 multiparous who were 2 to 4 days post delivery key findings were identified in the meanings of experience (1) pain is hard to describe and is contradictory, (2) trust in oneself and one's body (3) trust in the midwife and husband and (4) transition to motherhood. A conclusion is that midwives can help birthin women to find their own ability to cope, and should interface only if the woman asks or if the natural process is distributed eg by complications. The experience of pain during child birth, together with the experience of strength during child birth, gives meaning to the transition to motherhood.

Review related to music therapy:

Psychological and physiological effects of music therapy

Bolwark C (1990) Most music therapy studies in the fields of nursing and medicine have used music as an anxiolytic intervention for clients experiencing stress. Characteristics of anxiolytic music include simple repetitive rhythm, predictable dynamics, low pitch, slow tempo, consonance of harmony, no percussive instruments, string composition, and recognized instrumental and vocal timbre Physiological framework.

Landreth and Landreth (1994) suggest that the response to changes in sound wave frequency, amplitude and timbre is possible through a limited number of mechanisms including that (1) sound or music may stimulate involuntary centers in the central nervous system, causing physiological reactions that later as involved in conscious thought (2) music may be transmitted first to higher levels of the brain, where sound becomes involved with emotion and abstract thought before affecting physiology (3) both the first and second mechanisms work in concert.

Ascending auditory pathway

Sound is received by cochlear epithelial hair cells, which are innervated by afferent nerve fibers of the cranial nerve VIII (Livingstone RB 1991). Movement of hair cells produced by sound vibrations from the middle ear cause changes in the all-surface membrane resulting in an influx of ions that then causes a release of neurotransmitters at synaptic junctions between the hair cells and the afferent nerve terminals. Afferent nerve fibers from the hair cells bifurcate on the way to the medulla and deliver impulse to both dorsal and ventral cochlear nuclei (Oerfee D 1983).

In the dorsal cochlear nuclei, strong auditory impulses inhibit weaker auditory impulses; neural impulses representing only the more significant auditory input are then projected to the inferior colliculus of the midbrain. In the ventrolateral cardiorespiratory nuclei, less lateral inhibition occurs, so neural impulses closely representing the actual auditory input are projected bilaterally to both trapezoid body and the superior olivary complex in the medulla before being projected to the inferior colliculus of the midbrain. The inferior colliculus of the midbrain divides into two main functional regions: a core region and a belt region. The inferior colliculus core region receives input primarily from the dorsal cochlear nuclei and projects auditory information to the core region of the medial geniculate body in the thalamus. The medial geniculate body core region then projects auditory information to the central region of the cerebral auditory cortex in the temporal lobe.

The inferior colliculus belt region receives sensory input from many sources; auditory input is received from the ventral cochlear nuclei, trapezoid body, and superior olivary complex. The inferior colliculus belt region combines visual, and auditory input and then projects combined sensory information to the amygdala lateral nucleus and to the peripheral, or belt areas, of the auditory cortex in the temporal lobe.

Auditory information projected through the belt region is kept separate from information projected through the core region. Interpretation of pitch, loudness, location, and meaning of auditory stimuli is complex and involves analysis of frequency duration, amplitude, and time interval distributions of neural impulses and their modulations.

Descending auditory pathway:

Paralleling the ascending auditory pathway is a stepwise, descending auditory projection system. The temporal lobe auditory cortex sends 3 descending tracts: directly to the thalamus and midbrain, and with a single synaptic relay, to the pons. In addition, projections from the temporal lobe auditory cortex to the amygdale have been identified in the rat: projections from the amygdale include efferent fibers to both brainstem and hypothalamus.

From the midbrain, descending fibers project bilaterally to cochlear nuclei and nuclei in the medulla. (Romanski LM, Nitecka L 1995). Two main central nervous system components are involved in the stress responses. One component involves an endocrine response, whereby corticotrophin releasing hormone (CRH), secreted from the hypothalamus stimulates adrenocorticotrophic hormone release from the anterior pituitary and results in elevated plasma cortisol levels. The second component involves the autonomic nervous system, whereby the locus ceruleus located at the junction of midbrain and pons stimulates release of norepinephrine from central and peripheral sympathetic nerve terminals and release of epinephrine from the adrenal medulla, leading to increased anxiety, heart rate, blood pressure. Neural impulse produced by music may mediate changes in blood pressure, heart rate and anxiety level by affecting release of CRH from the hypothalamus or release of norepinephrine from the locus sympathetic nervous system. (Johnson EO Kamilaris TC 1992).

Principles of music therapy.

To facilitate understanding of music as a nursing intervention, 6 essential principles like intent, authentic presence, wholeness, preference, entrainment and situating the client had been explained by Mc.Caffery, Ruth, Locsin and Kozzanno, Christina E. Lynn college of nursing, Florida Atlantic University, Florida. (1995).

1. The principle of intent:

Intent, the principle, involves the attempt of the nurse to facilitate healing through the presentation of music. Teaching persons to focus their intent on music listening and absorbing music's vibrations is the one way of using music as a healing modality. Nurses to instruct persons to become quiet and still and promote that

stillness within the environment and blockout noxious stimuli and sensations within the environment, the desired effect can be achieved.

2. The principle of authentic presence:

The concept of presence is a mode of being with the wholeness of one's unique individual being: a gift of self, which can only be given freely, invoked or evoked. The nurse, person being nursed, and the music must concurrently present themselves authentically with each other for healing to occur. Mc.Kivergin lists three types of presence, namely physical, psychological and therapeutic.

3. The principle of wholeness

Wholeness is described as harmony of body, mind and spirit. Music listening is a part of the environment that affects the whole person physically, emotionally and spiritually and it is essential for nurses to be able to use music listening successfully as a healing modality. To use music listening effectively, nurses must view the patient as a whole human being who cannot be understood and disconnected into parts.

4. The principle of preference

Music for each person must be a unique experience. Musical preference takes into considering a person's prior experiences with listening to music, gender, age, culture, present mood. It is essential that music used for healing should be acceptable and enjoyed by the person listening. Nurses should have a variety of musical selections at their disposal in order to meet the needs of different patient's preferences and moods. Allowing and encouraging clients to listen to music whenever they choose can enhance feelings of control over their environment, which is comforting.

5. The principle of entrainment

The human brain can be entrained to be in step with or in sync with music. When the body becomes entrained to music with a slow, smooth rhythm, the heart beat can be slowed, breathing rate can become slower and blood pressure can be reduced. Through a gradual change of pace in rhythm, speech or emotional content within the music, a steady entrainment is achieved that brings a person from one physical or emotional state into another, that is an anxious person has been entrained

to the music fitting his or her anxiety, the rhythm can be slowed and softer sounds can be introduced so that relaxation can be enhanced.

6. The principle of situating the client

Assisting the person being nursed to be centered and still is an essential role of the nurse in using music listening for wellness and healing. At the beginning of each music listening session, a short meditation or blessing should be uttered or thought silently. An example might be : “may the healing work that we do be for the highest good”. Before playing the music, all negative thoughts should be cleared away, and the person should become still and prepare for the music to enter and assist in the work of healing.

Review related to effect of music therapy on labor pain perception:

Kavith. T. (2010) done a study to assess the effectiveness of music therapy on pain perception and anxiety level of primi mothers in first stage of labor. 30 primi mothers selected out of which 15 were experimental 15 were control group. The data collected by interview method. Numeric pain scale and anxiety check list were used to measure the labor pain and anxiety. The result of the study shows that compared with control group, the experimental group had significantly lower pain and anxiety.

Liu YH, Chang MY, Chen CH.(2010) investigated the effects of music on pain reaction & anxiety during labour among primi mothers. 60 primi mothers expected to have a normal spontaneous delivery were randomly assigned to either the experimental group (n = 30) or the control group (n = 30). A self-report visual analogue scale for pain and a nurse-rated present behavioural intensity were used to measure labour pain. Anxiety was measured with a visual analogue scale for anxiety and finger temperature. Pain and anxiety between groups were compared during the latent phase (2-4 cm cervical dilation) and active phase (5-7 cm) separately. The results of the study revealed that compared with the control group, the experimental group had significantly lower pain, anxiety and a higher finger temperature during the latent phase of labour. However, no significant differences were found between the two groups on all outcome measures during the active phase.

Kimber L, McNabb M, Mc Court C, Haines A, Brocklehurst P. (2008), *Massage or music for pain relief in labour: a pilot randomised placebo controlled trial.* Research on massage therapy for maternal pain and anxiety in labour is currently limited to four small trials. Each used different massage techniques, at different frequencies and durations, and relaxation techniques were included in three trials. Given the need to investigate massage interventions that complement maternal neurophysiological adaptations to labour and birth pain(s), we designed a pilot randomised controlled trial (RCT) to test the effects of a massage programme practised during physiological changes in pain threshold, from late pregnancy to birth, on women's reported pain, measured by a visual analogue scale (VAS) at 90 min following birth. To control for the potential bias of the possible effects of support offered within preparation for the intervention group, the study included 3 arms-- intervention (massage programme with relaxation techniques), placebo (music with relaxation techniques) and control (usual care). The placebo offered a non-pharmacological coping strategy, to ensure that use of massage was the only difference between intervention and placebo groups. There was a trend towards slightly lower mean pain scores in the intervention group but these differences were not statistically significant. No differences were found in use of pharmacological analgesia, need for augmentation or mode of delivery. There was a trend towards more positive views of labour preparedness and sense of control in the intervention and placebo groups, compared with the control group. These findings suggest that regular massage with relaxation techniques from late pregnancy to birth is an acceptable coping strategy that merits a large trial with sufficient power to detect differences in reported pain as a primary outcome measure.

Browning CA, (2000) conduct a study to find the responses of primiparas to the use of music therapy during the births of their children. Eleven women who attended childbirth education classes in Brantford, Ontario, Canada, volunteered to participate in a music therapy exercise. During pregnancy each participant selected preferred music, listened to it daily, and received instruction about focused listening. Within 72 hours after birth they were interviewed about their use of music as a coping strategy during labor. The result of the study reveals that the Women selected the combination of music and labor support as a helpful coping strategy during labor. All

women used the music during labor to help distract them from the pain or their current situation.

Geden EA, Lower M, Beattie S, Beck N,(1989) investigate the effects of music and imagery on physiologic and self-report of analogued labor pain. Two studies were conducted to examine the effects of music on analogued labor pain using volunteer nulliparous subjects who were randomly assigned to treatment groups (n = 10 per group). Assessments of the treatments were made in a 1-hour session involving twenty 80-second exposures to a laboratory pain stimulus patterned to resemble labor contractions. In the first experiment, it was hypothesized that subjects listening to easy-listening music would report lower pain ratings and cardiovascular responses than subjects listening to rock music, self-selected music, or a dissertation (placebo-attention) and subjects in a no-treatment control group. No significant group effects were found; significant time effects were found for heart rate, systolic and diastolic blood pressure. Subjects spontaneously reported using imagery as a pain reduction technique. In the second study a combination of music and imagery was examined by randomly assigning subjects to one of five groups: self-generated imagery with music (SIM), guided imagery with music (GIM), self-generated imagery without music (SI), guided imagery without music (GI), or no-treatment control. Again, no significant group effects were obtained. Significant time effects were obtained.

Taghinejad H, Delpisheh A, Suhrabi Z, (2010) conduct a study on Comparison between massage and music therapies to relieve the severity of labor pain. Overall, 101 primigravidae who were hospitalized for vaginal delivery were recruited and randomly stratified into two groups of either massage (n = 51) or music (n = 50) therapies. Pain was measured using the visual analog scale and the two groups were compared in terms of pain severity before and after the interventions. The study findings reveals that mothers in the massage therapy group had a lower level of pain compared with those in the music therapy group (p = 0.009). A significant difference was observed between the two groups in terms of pain severity after intervention (p = 0.01). Agonizing, or most severe, labor pain was significantly relieved after massage therapy (p = 0.001).

Phumdoung S, Good M (2003) investigates the effects of music reduces sensation and distress of labor pain. Labor pain is often severe, and analgesic medication may not be indicated. In this randomized controlled trial we examined the effects of music on sensation and distress of pain in Thai primiparous women during the active phase of labor. The gate control theory of pain was the theoretical framework for this study. Randomization with a computerized minimization program was used to assign women to a music group ($n = 55$) or a control group ($n = 55$). Women in the intervention group listened to soft music without lyrics for 3 hours starting early in the active phase of labor. Dual visual analog scales were used to measure sensation and distress of pain before starting the study and at three hourly posttests. While controlling for pretest scores, one-way repeated measures analysis of covariance indicated that those in the music group had significantly less sensation and distress of pain than did the control group ($F(1, 107) = 18.69, p < .001$, effect size $= .15$, and $F(1, 107) = 14.87, p < .001$, effect size $= .12$), respectively. Sensation and distress significantly increased across the 3 hours in both groups ($p < .001$), except for distress in the music group during the first hour. Distress was significantly lower than sensation in both groups ($p < .05$).

CONCEPTUAL FRAME WORK

The present study was aimed to determine the effectiveness of the music therapy on labor pain among primi mothers. The conceptual frame work of this study was derived from Gate control theory of pain.

GATE CONTROL THEORY OF PAIN

The Gate control theory first postulated by Ronald Melzack and Patric David Wall in 1965. This theory used for pain to pass through the gate there must be there must be unopposed passage for nociceptive information arriving at the synapses in the substantia gelatinosa. The pain impulses will be carried out by the small diameter, slow conducting A alpha and C fibers. Impulses through small diameter fibers will open the pain gate, and the person feels pain. Pain gate is also receiving impulses produced by stimulation of music transmitted via large diameter A beta fibers inhibit and superimpose the small diameter impulses. Many non-pharmacological procedures such as application of heat or ice, massage, vibration and movement stimulate the nerve endings connected with large diameter fibers which can produce a reduction of pain by closing the pain gate.

If nociceptive information is allowed through the gate then this traffic will continue up the lateral spino-thalamic tract of the spinal cord to the thalamus, and from here to the cerebral cortex. As this stimulus passes through the brainstem it may cause an interaction between the periaqueductal area of grey matter and the raphe nucleus in the mid brain. These nuclei form part of the descending nervous can release an endogenous opiate substance in to the substantia gelatinosa at spinal cord level. The chemical nature of this endogenous opiate, which may be endorphin or enkephalin is such as to cause inhibition of transmission in the nociceptive circuit synapses. This is achieved by blocking the release of the chemical transmitter in the pain circuit. Thus of a cutaneous stimulus of a noxious type is applied such as massage, application of ice, etc then the release of endorphin or enkephalin could reduce pain at a spinal level.

The conceptual frame work was developed based on the principle of gate control theory. Methods used to reduce the labor pain is influenced by selected variables such as age, occupation, pain tolerance, labor enhancing procedure and drugs.

DEMOGRAPHIC VARIABLES OF PRIMI MOTHERS:

The mothers with full term first pregnancy posses the characteristics of demographic variables such as age,religion,education,occupation, income, pain tolerance, regular check up, gestational weeks, labor enhancing procedure/drugs. And also who had normal labor care such as enema, positioning, nutrition, walking and psychological support etc.

LABOR PAIN:

Labor pain is caused by uterine contraction which leads to cervical dilation, effacement and uterine ischemia due to contraction of the arteries of Myometrium.

INTERVENTION:

Music therapy was given for 30 minutes in the interval of 2 hours in 5 time for experimental group. Music therapy was not given in the control group.

STIMULATION OF PAIN RECEPTORS:

Contraction of the uterine stimulates pain receptors in lower abdomen and lumbar area of the back. In the control group more stimulation of pain receptors in these areas due to the close contact between the contracting uterus and the abdominal and lower back structures. In case of experimental group less stimulation of free nerve endings in the lower abdomen and lumbar area of the back compared to the control group due to diverting the mind caused by music therapy. Here music therapy are not interfere the uterine contraction only divert the mind.

TRAVELLING OF PAIN IMPULSES:

Normally pain impulses are travelling through small short conducting A alpha and C fibers. Impulses from stimulation such as music, massage, cold application and TENS etc will be quickly conducted by large myelinated A beta fibers. In the control group pain impulses will be conducted straight away by A α and C fibers which reach

the gate of pain and open the gate. In experimental group where the mothers receive music therapy, impulses will be conducted by fast conducting A beta large fibers which reaches the gate of pain very quickly.

GATING MECHANISM:

Pain impulses during the first stage of labor are transmitted through spinal nerve segment of T₁₁₋₁₂ and accessory lower thoracic and upper lumbar sympathetic nerves, which are travelled through (A α and C) small diameter and slow conducting myelinated fibers and reach the pain gate and open the gate thus mother perceives pain in the lower abdomen and lower back. Impulses from music therapy travelled through fast conducting myelinated A beta fibers which super impose small fibers and close the pain gate, and also beta endorphin which is released from inter neurons at spinal cord level which also close the gate of pain. Thus mother perceives less pain.

CHAPTER-III

METHODOLOGY

This chapter deals with the description of methodology and the various steps adopted to collect and organize data for the study. Research methodology involves the systematic procedure by which the investigator starts from the initial identification of the problems to its final conclusion. Methodology is a significant part of any study, which enables the researcher to project the research undertaken.

The methodology section includes the research approach, research design, setting of the study, population, criteria for sample selection, method of sampling, description of the instrument, scoring procedure.

Research approach

Experimental approach was used to evaluate the effect of music therapy on labour pain perception.

Research design

The research design was adopted for this study was Nonrandomized control group quasi experimental design. It is also known as ‘nonequivalent control group design’. This design is identical to the pretest – posttest control group design, except there is no random assignment of subjects in experimental and control group. Diagrammatic representation of the design is given below.

E	O ₁	X	O ₂
C	Q ₁	-	Q ₂

- E - Experimental group
- C - Control group
- O₁ - Pain score before manipulation (pre test)
- O₂ - Pain score after manipulation (post test)
- X - Manipulation of independent variable [intervention]
- Q₁ - Pain score before manipulation (pre test)
- Q₂ - Pain score after manipulation (post test)

Experimental group

- ❖ Select the mother in early labour [3-4cm dilation]
- ❖ Check the intensity of pain according to numbering from visual analog pain perception scale
- ❖ Before music therapy
- ❖ Played a music as per musician suggestion.
- ❖ Listened the taped music for 30 minutes through headphones.
- ❖ Check the intensity of pain according to numbering from visual analog pain perception scale after music therapy.

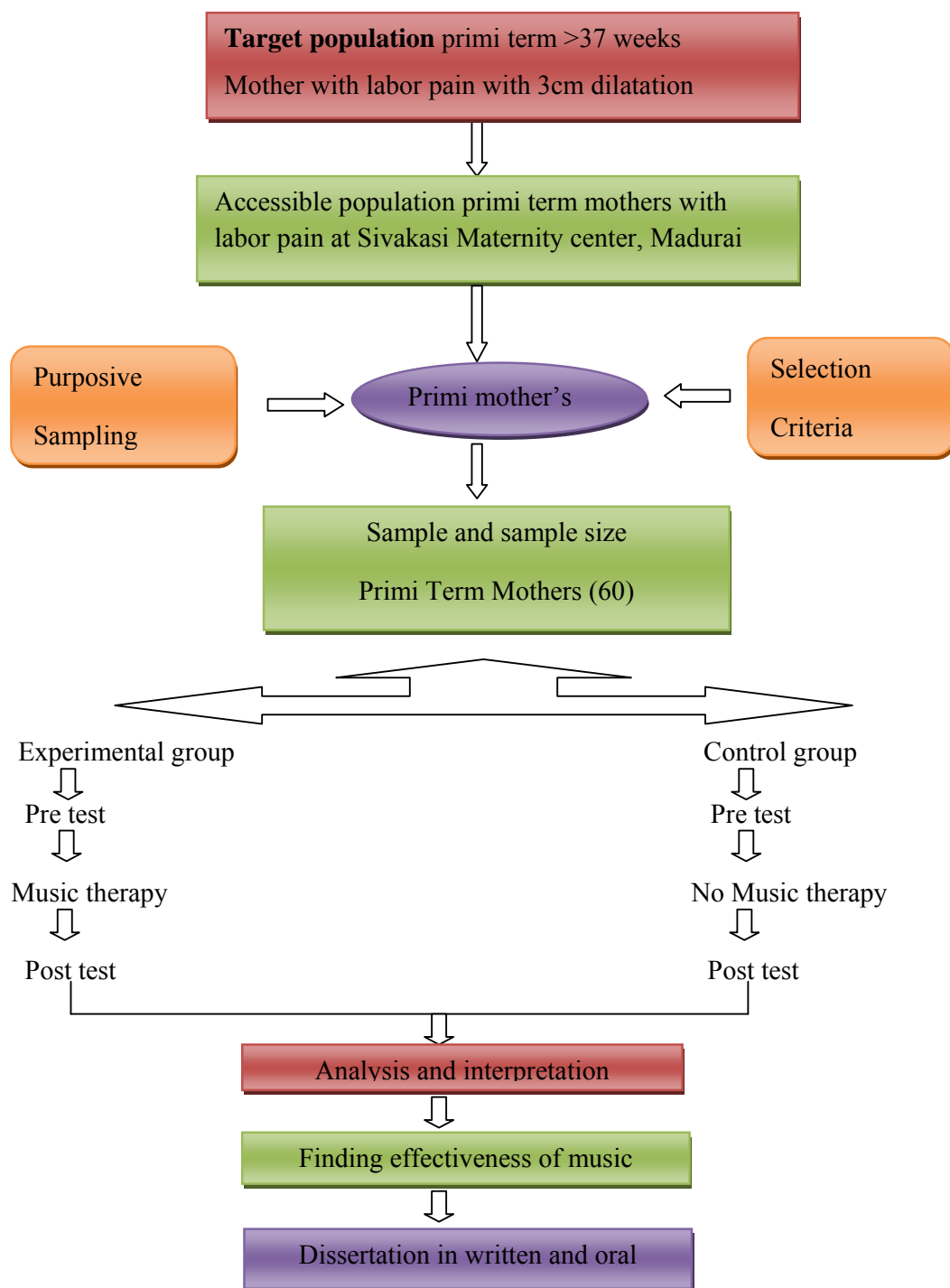
Control group

- ❖ Teaching regarding visual analog scale
- ❖ Check the intensity of pain according to numbering from visual analog pain perception scale
- ❖ No music therapy
- ❖ Check the intensity of pain perception according to numbering by using the colorful visual analog pain perception scale after 30 minutes without intervention through the mother's response.

Variables

- Independent variable - Music therapy
- Dependent variable - Level of labour pain

FIG: 2 SCHEMATIC REPRESENTATION OF RESEARCH DESIGN



Setting of the study

For this study Sivakasi Maternity center , Madurai was chosen considering the availability of samples, acquaintance of the investigator with the area and cooperation from the institution. This hospital is situated at the heart of Madurai city and 6 kilometer from the college. It is 75 – bedded hospital. In this average number of clients admitted in the labour room is 5 per day.

Population

The target of this study was primi mother in labour, above 37 weeks os gestation who were admitted in labour room with true labour pain.

Sample size

The sample consists of 60 primi mothers, above 37 weeks of gestation who were admitted in labour room with true labour pain.

Criteria for sampling**Inclusion criteria**

- ❖ Primi mother who were above 37 weeks of gestation with true labour pain.
- ❖ Who were in the active phase of first stage of labour.
- ❖ Who were not having any obstetric and medical complications like pregnancy induced Hypertension, Eclampsia, Gestational Dibetes melites etc.,
- ❖ Who were willing to participate in the study
- ❖ Who can speak Tamil

Exclusion criteria

- ❖ Pre term labour before 37 weeks of gestation
- ❖ High risk pregnant mother.

Method of sample selection

Primi term in labour room at Sivakasi Maternity center, Madurai. With true labour pain and who fulfilled the inclusion criteria were selected as a sample by purposive sampling technique. It is a non-probability sampling method. The participants for the study were selected on the basis of personal judgment about which one will be the most representative or productive.

Description of the instrument

The instrument used in this study was self administered structured questionnaire in Tamil, which consist of the following sections.

Section I : Demographic data

Section II : Visual analog pain perception scale

Section III : Questionnaire on music enjoyment and evaluation

Section - I

Demographic data:

It includes age, religion, education, occupation, monthly income, area of residence and type of family.

Clinical variables:

It is usual pain tolerance level, regularity of antenatal check up, Gestational weeks, last menstrual period, time of true labour pain started cervical dilation, nature of uterine contraction, administration of labour enhancing procedure / drug.

Section – II

Visual analog pain perception scale it is a standard method which consist of ten points. It is used to assess the pain perception of term mother in labour. Mothers who are in true labour were asked to choose the appropriate pain perception level in the ten points.

The scale was categorized as follows:

‘0’ denotes - No pain

‘1’ denotes - Mild pain

‘ 2 – 6’ denotes - Moderate

‘ 7 – 9’ denotes - Extreme pain

‘ 10 ‘ denotes - Excruciating pain

Section- III:

Investigator created music enjoyment post evaluation questionnaire was used to determine the mother’s rating of music enjoyment. This is a two items, “Yes or No” questions, used to identify whether she enjoyed while hearing the music.

Music Evaluation questionnaire includes the experience and feelings of clients in their own words and their attitudes, reactions and evaluations. It included three close ended and two open ended questions related to mother's perception of music.

Testing of the tools:

Validity and reliability:

As a standardized instrument content validity was not necessary. Both the subject and the language experts have validated the tool. These experts included doctors specialized in obstetrics and gynecology, musician and seven nursing experts specialized in maternity nursing.

The reliability of the visual analog pain perception scale was determined by interrater method and found to be ($r = 0.92$) highly reliable.

Pilot study

A pilot study was conducted in Primary Health Center at Thiruparankundram among 6 primi mothers who fulfilled the criteria of sample selection, who were other than study sample on 6 subjects (three in each group experimental and control). The purpose was found to be feasibility of the study. The visual analog pain perception scale was found to be feasible the level of significant ' t ' = 0.5. The statistical analyses used were ' t ' test to test the effect of music therapy on labor pain perception and chi-square test to find the association between the level of pain perception and selected demographic variables such as age, education, occupation, regularity of antenatal checkup and family monthly income. The result showed that the statistical tests used to test these hypotheses were appropriate and feasible. The pilot study results didn't show any major flaw in the study. The subjects in pilot study were not included in the main study.

Data collection procedure:

The data collection was done for four weeks in the Sivakasi Maternity center, Madurai. Every day an average 2-3 subjects were selected by purposive sampling for experimental and control group. Music therapy was given 30 minutes to the experimental group after admitting them in labor room (PV 3-4cm dilatation) during early labor. After 2 hours reassessment was done and if she has 5cm dilatation, she

was instructed to listen music for 30 minutes. post assessment of pain perception was done for each time.

In this data collection the first two weeks were dedicated to the control group participants and the following next two weeks were for the experimental group.

Plan for data analysis:

A plan for data analysis was developed by the investigator after the pilot study in terms of descriptive and inferential statistics. In order to evaluate the effectiveness of the music therapy on labor pain perception, 't' test would be used. To determine the association between the level of pain perception and selected demographic variables such as age, education, occupation, regularity of antenatal check up and family monthly income. 'chi-square' would be used. The level of significance used to test the hypotheses was 0.05.

Protection of human rights:

The propose of the study was conducted after the approval of research committee of the C.S.I Jeyaraj Annapackiam college of nursing permission was obtained from the medical director of Sivakasi Maternity center , Madurai. The oral consent of each individual was obtained before data collection. Assurance was given to the study subjects regarding the confidentiality of the data collected.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collected from 60 women with true labor pain to find out the effect of music therapy on labor pain perception.

Polit, (1999) states that statistical analysis is a method of rendering quantitative information and elicits meaningful and intelligible form of research data. Analysis and interpretation of data collected from 60 women with true labor pain to find out the effect of music therapy on labor pain perception.

OBJECTIVES OF THE STUDY:

1. To assess the level of labour pain perception before and after music therapy among primi mothers during labor in experimental group.
2. To assess the level of labour pain perception among primi mothers during labor in control group.
3. To find the difference between pre and post test level of labour pain in experimental and control group.
4. To find out the association between the level of labour pain among experimental & control group of primi mother with selected demographic variables.

ORGANIZATION OF THE FINDINGS:

In order to test the hypotheses, two null hypotheses were formulated and the statistical methods undertaken were 't' test and chi – square. The level of significant was at 0.05.

PRESENTATION OF THE FINDINGS:

The analysis of the data were organized and presented under the following headings:

- ❖ Distribution of primi mother based on demographic data.
- ❖ Distribution of primi mother based on level of pain perception of mother during labor.
- ❖ Distribution of mother based the difference level of pain perception between experimental and control group.
- ❖ Effect of music therapy on labor pain perception.
- ❖ Association between the labor pain perception and selected demographic variables.

TABLE – 1
DISTRIBUTION OF PRIMI MOTHER BASED ON THEIR SELECTED
DEMOGRAPHIC VARIABLES

N = 60						
Characteristics	Experimental Group (n = 30)		Control Group (n = 30)		Total (N = 60)	
	f	%	f	%	f	%
1. Age (in years)						
15 - 25	17	57	17	57	34	57
26 – 35	13	43	13	43	26	43
36 - 45	-	-	-	-	-	-
2. Religion						
Hindu	21	70	23	77	44	74
Christian	2	7	3	10	5	8
Musilim	7	23	4	13	11	18
3. Education						
Illiterate	-	-	-	-	-	-
School	9	30	9	30	18	30
Graduate	21	70	21	70	42	70
4. Occupation						
Home maker	12	40	13	43	25	41
Moderate worker	18	60	17	57	35	58
Heavy worker	-	-	-	-	-	-
5. Pain tolerance						
Low	2	7	9	30	11	18
Moderate	12	40	10	33	22	37
Higher	16	53	11	37	27	45
6. Ante natal check up						
Regular	30	100	30	100	60	100
Irregular	-	-	-	-	-	-
Nil	-	-	-	-	-	-

Table - 1 reveals that 57%(34) of mothers belong to the age group of 15 – 25 years and remaining 43%(26) mothers belong to the age group of 26 – 35 years, 74%(44) belongs to Hindu religion, majority of participants 70%(42) were graduates, 58%(35) of mothers were moderate workers, 45% (27)of mothers were have high level of pain tolerance and 100%(60) of mothers were attended regularly for ante natal check up.

FIGURE 3
PRIMI MOTHERS WERE BASED ON THEIR AGE IN YEARS AMONG
EXPERIMENTAL AND GONTROL GROUP

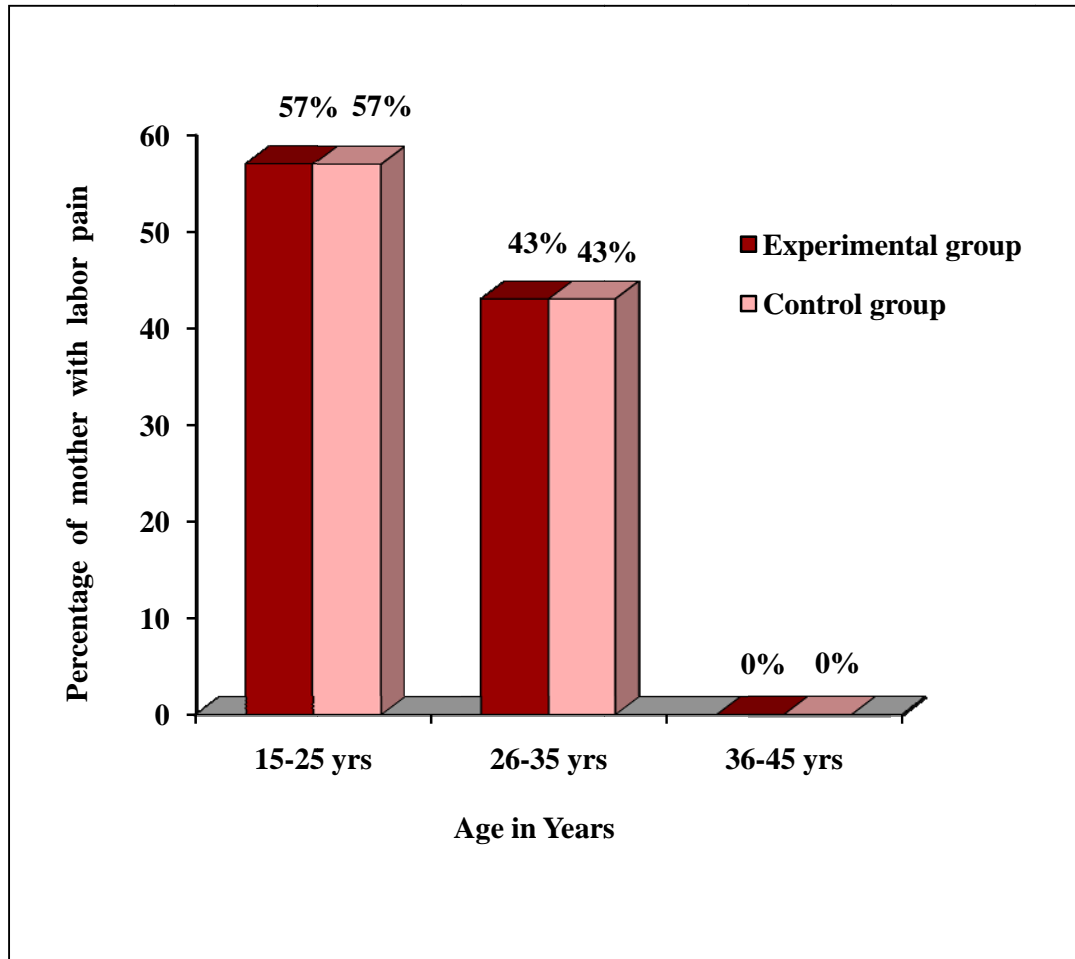


Fig. 3. Multiple bar diagram shows the percentage of primi mothers according to their age in experimental and control group.

FIGURE 4
PRIMI MOTHERS WERE BASED ON THEIR RELIGION AMONG
EXPERIMENTAL AND GONTROL GROUP

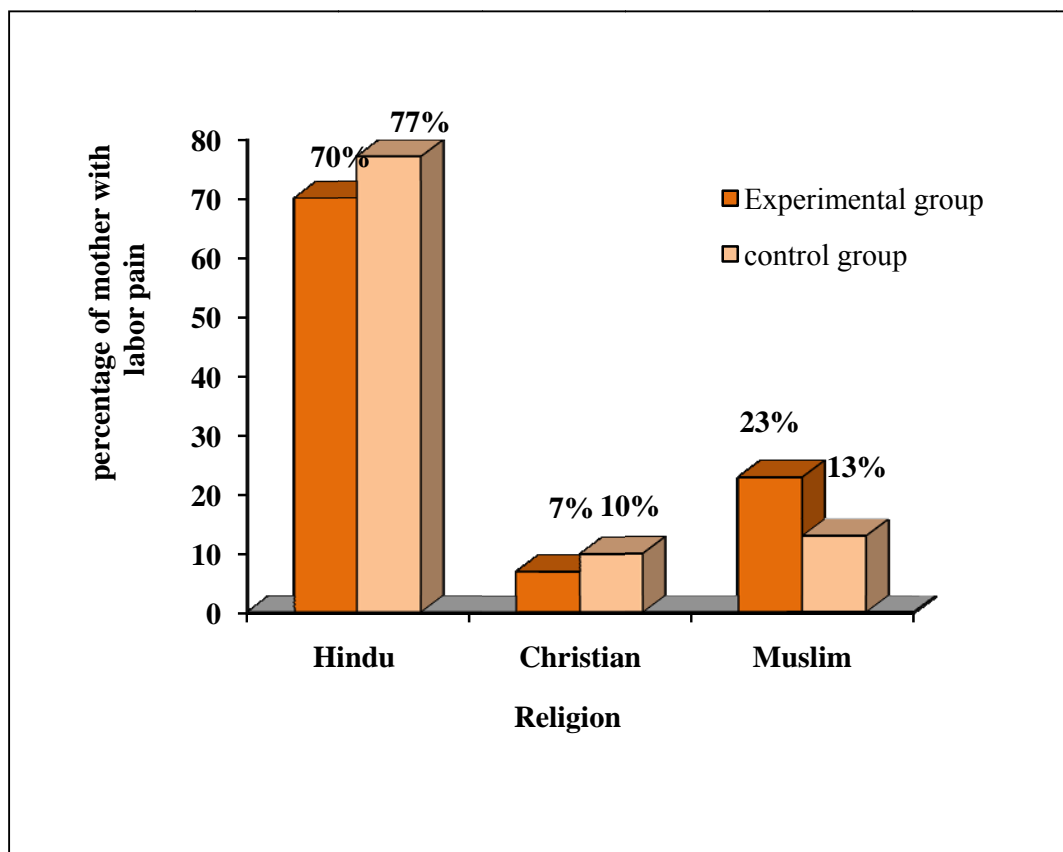


Fig. 4 .Multiple bar diagram shows the percentageof primi mothers according to their Religion in experimental and control group

FIGURE 5
PRIMI MOTHERS WERE BASED ON THEIR EDUCATIONAL STATUS
AMONG EXPERIMENTAL AND GONTROL GROUP

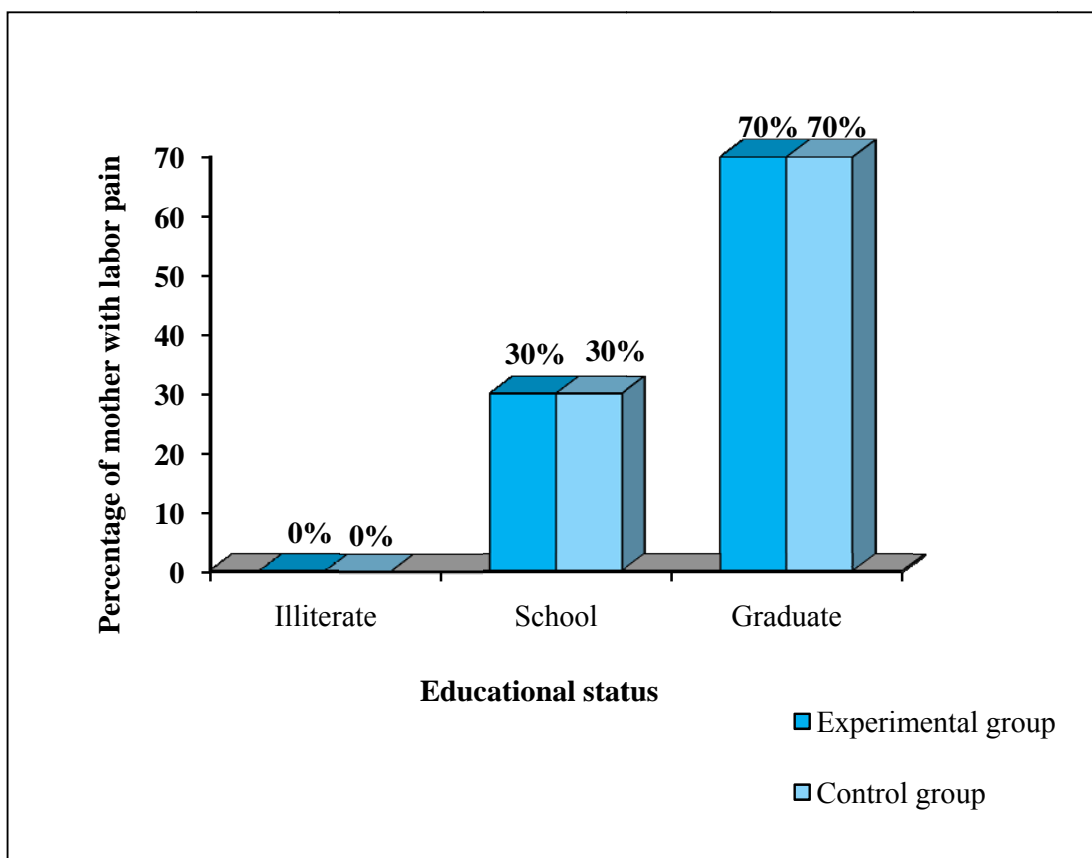


Fig. 5 . Multiple bar diagram shows the percentage of primi mothers according to their educational status in experimental and control group.

FIGURE 6
PRIMI MOTHERS WERE BASED ON THEIR OCCUPATIONAL STATUS
AMONG EXPERIMENTAL AND GONTROL GROUP

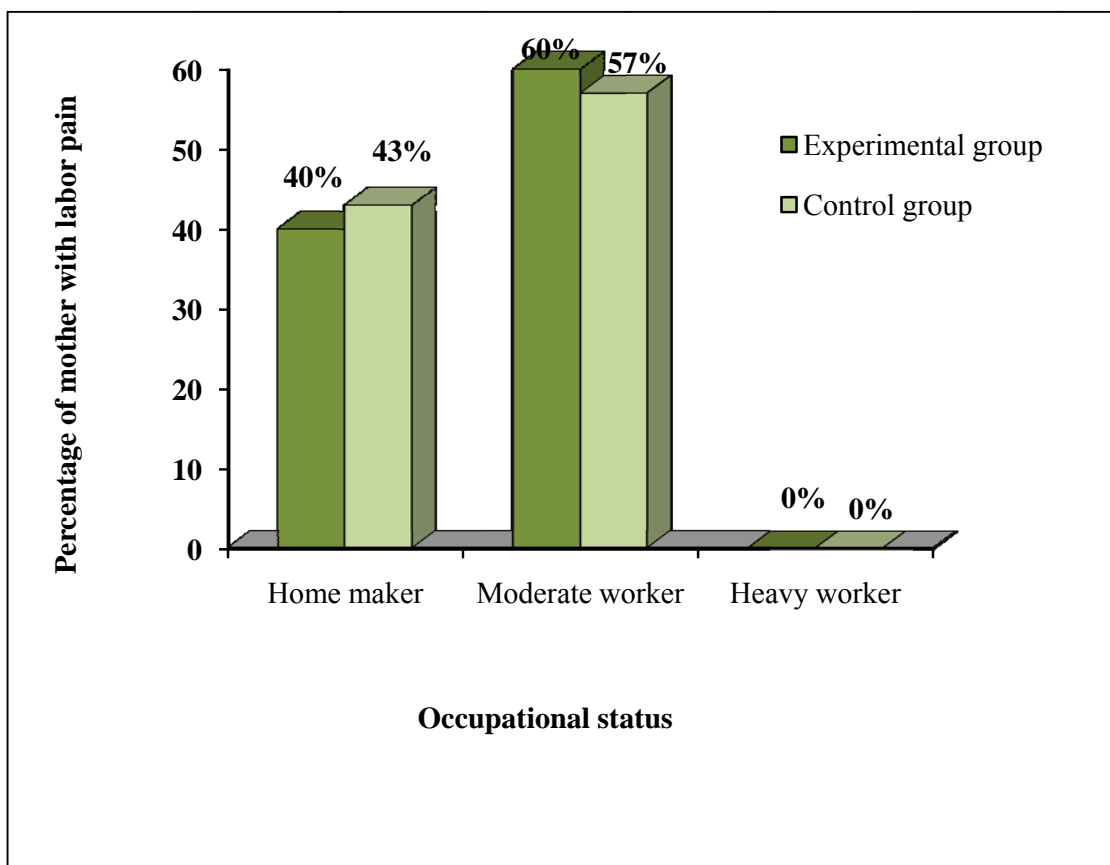


Fig.6 .Multiple bar diagram shows the percentage of primi mothers according to their occupational status .

FIGURE 7
PRIMI MOTHERS WERE BASED ON THEIR PAIN TOLERANCE LEVEL
AMONG EXPERIMENTAL AND GONTROL GROUP

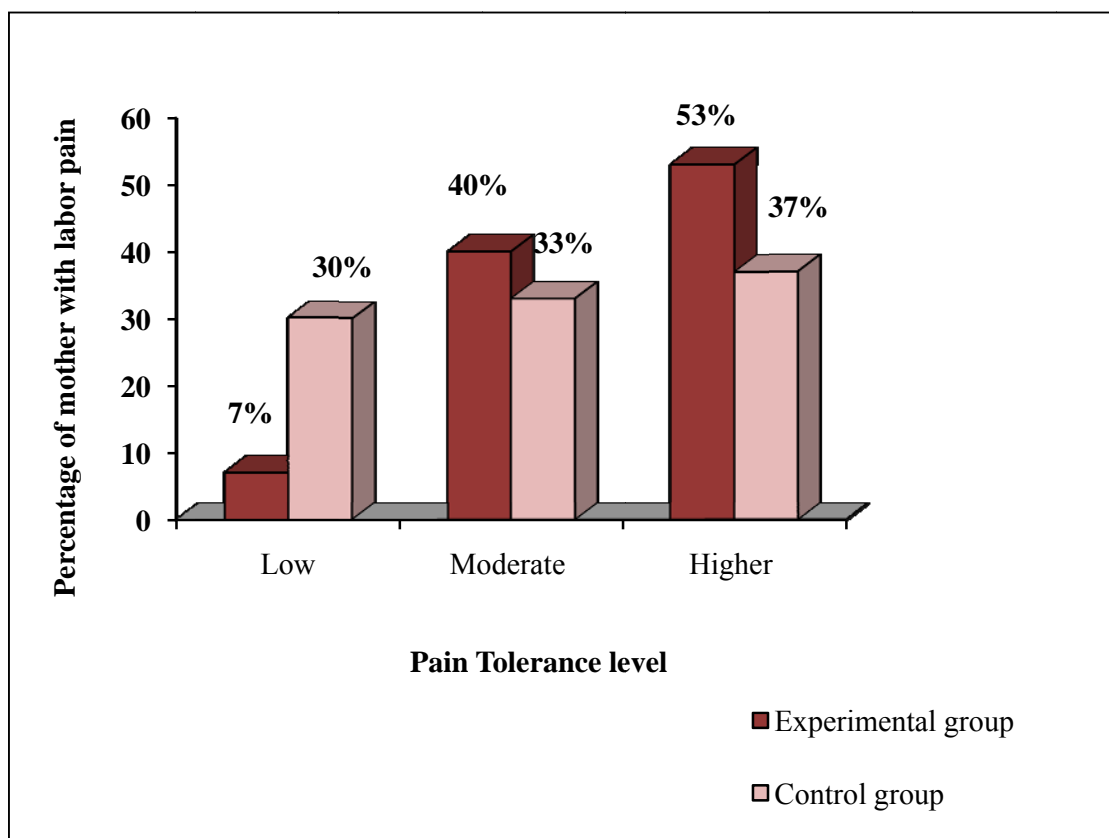


Fig. 7 . Multiple bar diagram shows the percentage of primi mothers according to their tolerance level in experimental and control group.

FIGURE 8
PRIMI MOTHERS WERE BASED ON THEIR ANTENATEL CHECKUP
AMONG EXPERIMENTAL AND GONTROL GROUP

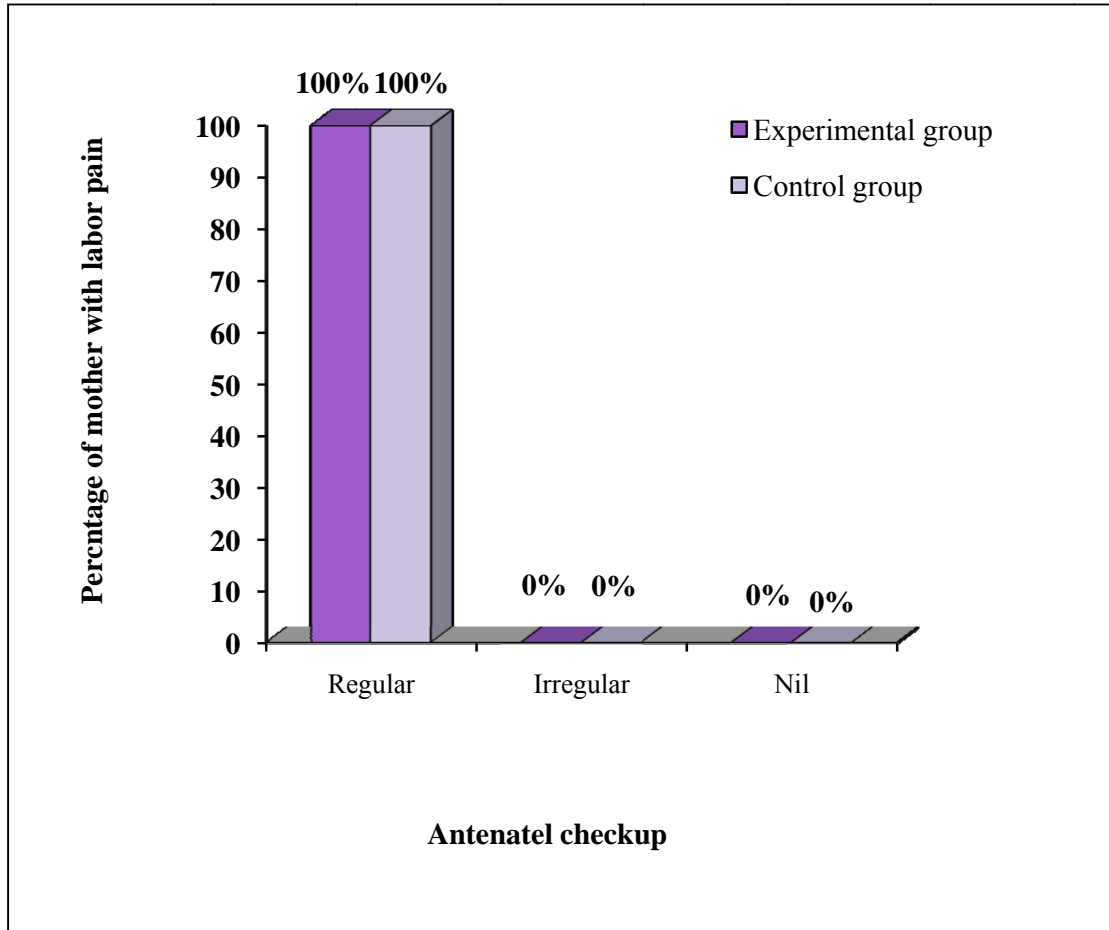


Fig. 8 . Multiple bar diagram shows the percentage of primi mothers according to their antenatel checkup in experimental and control group

TABLE -2

**LEVEL OF LABOUR PAIN PERCEPTION OF WOMEN WITH
BEFORE AND AFTER MUSIC THERAPY IN EXPERIMENTAL GROUP
AND CONTROL GROUP**

N = 60

Level of labour pain	Experimental group (30)				Control group (30)			
	Pre – test		Post- test		Pre – test		Post- test	
	f	%	f	%	f	%	f	%
No pain	-	-	-	-	-	-	-	-
Mild pain	-	-	-	-	-	-	-	-
Moderate pain	21	70	27	90	28	93	9	30
Extreme pain	9	30	3	10	2	7	21	70
Excruciation pain	-	-	-	-	-	-	-	-

Table – 2 reveals that the level of labour pain perception in experimental and control group before and after music therapy.

Majority of patients in experimental group 21 (70%) had moderate pain least were 9 (30%) had extreme pain in the pre test assessment. Majority of patients in control group 28 (93%) had moderate pain least were 2 (7%) had extreme pain in the pre test assessment.

Majority of patients in experimental group 27 (90%) had moderate pain least were 3 (10%) had extreme pain in the post test assessment. Majority of patients in control group 21 (70%) had extreme pain least were 9 (30%) had mild pain in the post test assessment.

This indicate that there was a difference between the experimental and control group regarding the post test pain perception score. Therefore the music therapy was found to be effective.

TABLE – 3**DISTRIBUTION OF LABOR AMONG PRIMI MOTHERS BASED ON EFFECTIVENESS OF MUSIC THERAPY BY UN PAIRED ‘T’ VALUE****N = 60**

Group	Post – test		Unpaired ‘t’ value
	Mean	SD	
Experimental group	16.63	5.35	13.76***
Control group	31.93	2.91	

(df = 58, table value = 3.46*** P < 0.001 highly significant)

Table - 3 reveals that the post test mean score of experimental group is 16.63 and mean score of control group is 31.93. this indicates that the score of experimental group is lower than the control group. The obtained unpaired ‘t’ value is 13.76*** (P < 0.001) . the above findings clearly imply that the music therapy had a highly significant effect on reducing labor pain perception among primi mothers because the table value is lower than the calculated value. So the null hypothesis is rejected and the alternate hypothesis was accepted.

TABLE – 4

DISTRIBUTION OF ASSOCIATION REGARD TO THEIR LABOUR PAIN PERCEPTION AFTER THE MUSIC THERAPY IN RELATION TO THEIR SELECTED DEMOGRAPHIC VARIABLE IN EXPERIMENTAL GROUP

(n = 30)

Characteristics	Experimental Group	Below mean	Above mean	Chi-square	P value
1. Age in years					
15 – 25	17	16	1	$\chi^2 = 0.739$	0.39
26 – 35	13	11	2		
36 – 45	-	-	-		
2. Religion					
Hindu	21	19	2	$\chi^2 = 0.37$	0.831
Christian	2	2	0		
Musilim	7	6	1		
3. Education					
Illiterate	-	-	-	$\chi^2 = 0.017$	0.894
School	9	8	1		
Graduate	21	19	2		
4. Occupation					
Home maker	12	10	2	$\chi^2 = 0.987$	0.32
Moderate worker	18	17	1		
Heavy worker	-	-	-		
5. Pain tolerance					
Low	2	0	2	$\chi^2 = 19.82^{***}$	0.000
Moderate	12	11	1		
Higher	16	16	0		
6. Ante natal check up					
Regular	30	27	3	$\chi^2 = 0$	1
Irregular	-	-	-		
Nil	-	-	-		

Table – 4 reveals that there was a significant association between the pain tolerance level and the pain perception. Other than the pain tolerance capacity(chi – square value is $\chi^2 = 19.82^{***}$), there is no significant association between labor pain perception and other selected demographic variables of experimental group such as age, religion, education, occupation and regular antenatal check up.

TABLE – 5

**FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRIMI MOTHER
BASED ON THE MUSIC SUPPORTED DURING LABOUR PAIN IN
EXPERIMENTAL GROUP**

(n = 30)

Kind of support	Frequency	Percentage
Excellent	6	20
Very Good	14	47
Good	10	33
Helpful	-	-
No Change	-	-

Table – 5 reveals that support the music provided during labor pain in experimental group.

Majority of patient experienced a very good support 14 (47%), good support experienced by 10 (33%) mothers, excellent support felt by 6 (20%) mothers and no of them reported as no change.

FIGURE 9
PRIMI MOTHERS WERE BASED ON THE KINDS OF SUPPORT MUSIC
PROVIDED FOR REDUCING PAIN IN EXPERIMENTAL GROUP

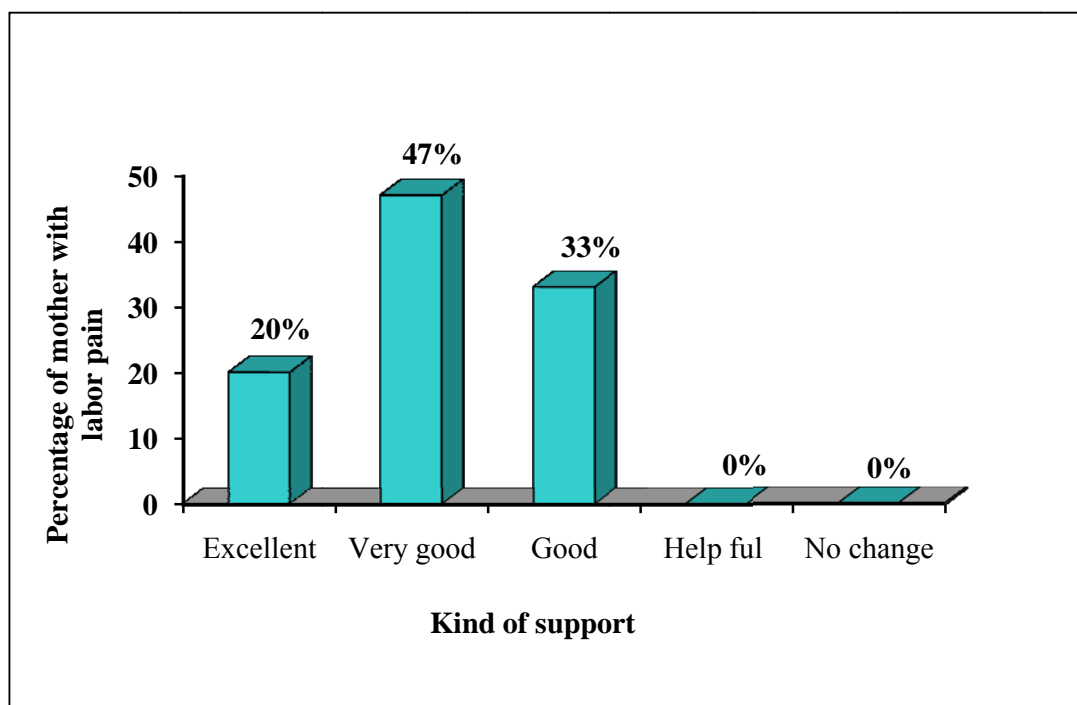


Fig .12. Bar diagram shows the percentage of primi mothers according to the kind of support music provided for reducing labor pain in experimental group

CHAPTER – V

DISCUSSION

This study evaluated the effect of music therapy on labor pain perception of mother's in first stage of labor. The study findings are discussed in this chapter.

The first objective of the study is to assess the level of labour pain perception before and after the music therapy among women in labor in the experimental group.

The study showed that 90% of women had moderate level of pain perception and 10% of participants had severe pain. None of the subjects had mild level of pain perception.

The findings of the present study are consisted with the study conducted by Liu .Y.H, Chang.M.Y, Chen.C.H.(2010) report that experimental group had significantly low level of pain perception than the control group.

The second objective of the study is to assess the level of labour pain perception among women during labor in control group.

The study showed that 30% of mother's had moderate level of pain and 70% of mothers had extreme level of pain perception.

The findings of the present study consistent with the study conducted by Harrison(2000) state that 80% of mothers experiencing extreme level of pain perception and more than quarter of the mothers feeling fear and anxiety along with the severe pain.

The third objective of the study is to find the difference between pre and post test level of labour pain in experimental and control group.

The current study findings revealed that the mean pain perception of experimental group in post test is 16.63, where the mean pain perception of control group in post test is 31.93. the mean difference of labor pain perception score is 15 between mean post test scores experimental and control group is significant at 0.001

level at value $t = 13.765$ $P < 0.001$. The findings revealed that the effectiveness of music therapy in reducing the level of labour pain perception.

The study finding of current study are consistent with the study conducted by Taghinejad H, Delpisheh A, Suhrabi Z, (2010) that the mother who hearing music therapy to relieve the severity of labor pain. The study findings reveals that mothers in the music therapy group had a lower level of pain perception ($p = 0.009$).

The fourth objective of the study is to find out the association between the level of labour pain among experimental & control group of primi mother with selected demographic variables such as age, religion, education, occupation, pain tolerance level and regular antenatal check up.

The current study findings revealed that there is no significant association between the level of labor pain and selected demographic variables of experimental group such as age, religion, education, occupation, and regular antenatal check up except pain tolerance level.

The above findings revealed that the music therapy has a significant effect in reducing the level of labor pain perception

CHAPTER – VI

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with the summary of the study and conclusions drawn. It clarifies the limitations of the study, the implications for different areas like nursing education, administration and for the health care delivery system (nursing practice), nursing research and recommendations.

SUMMARY:

The present study was aimed at evaluating the effect of music therapy on labor pain perception among women during labor at the Sivakasi Maternity center, Madurai.

The objectives of the study were:

1. To assess the level of labour pain perception after music therapy among primi mothers during labor in experimental group.
2. To assess the level of labour pain perception among primi mothers during labor in control group.
3. To find the difference between pre and post test level of labour pain in experimental and control group
4. To find out the association between the level of labour pain among experimental & control group of primi mother with selected demographic variables.

The following hypothesis were tested:

H₁₀: There is significant difference between pre and post test level of labor pain perception during first stage of labor in experimental group and control group among primi gravida women.

H₂₀: There is no significant difference between pre and post test level of labor pain perception during first stage of labor in experimental group and control group among primi mothers.

This study based on Gate control theory (1965). An experimental research approach was used in the present study. A quasi experimental with post test only

control group design was used in this study. The variables were labor pain perception (dependent variable) and music therapy (independent variable). This study was conducted in Sivakasi Maternity center at Madurai. The target population of the study were primi mothers above 37 weeks of gestation with true labor pain.

The study participants were selected by the method of purposive sampling technique and were assigned to experimental and control group (30 in each group). The used data collection tools were:

- ❖ Visual Analog pain perception scale.
- ❖ Questionnaire on music enjoyment and evaluation.

The reliability of visual Analog pain perception scale ($r = 0.92$). Established content validity was done by five experts specialized in obstetrics and gynecology, musicians and maternity nursing.

Pilot study was done on six subjects, to find out the feasibility of the study and did not show any major mistakes in the design of the study.

Data collection was done for four weeks. Based on objectives and hypotheses the data collected were analyzed by using both descriptive and inferential statistics. The level of significant was taken as 0.05.

Major findings of the study

1. There is a mean difference between post test pain perception scores of control group and experimental group. This revealed that the pain perception score was reduced for experimental group after the music therapy.
2. The post test mean pain perception score value of experimental group was significantly less than the post test mean pain perception score value of control group. This revealed that music therapy was effective in reducing the level of labour pain perception among primi mothers in first stage of labour.
3. In this current study, there was a significant association between the level of labour pain perception and level of pain tolerance. Other than the level of pain tolerance there was no significant association between labour pain perception

and demographic variables of experimental group such as age, religion, education, occupation and regular antenatal check up.

CONCLUSIONS

The following conclusions were drawn from the study findings:

1. Music therapy is effective in reducing the level of labor pain perception.
2. There is no significant association between the level of labour pain perception and selected demographic variables of mother in labour except level of pain tolerance.

IMPLICATIONS:

The study has implications in various areas such as nursing practice, nursing education, nursing administration and nursing research.

Implications for Nursing practice

1. The findings of the study clearly show that music therapy can be used to increase pain tolerance and to prevent intrapartum complications.
2. Nursing personnel are in the best position to use music therapy in the hospital as a part of child birth preparation than the other member of the health team.
3. The study findings signify the importance of implementing music therapy in child birth preparation by the nursing personnel working in the labor room.

Implications for Nursing Education

The study has clearly proved that music therapy was effective in reducing the level of pain perception of women in labor. To practice this, nursing personnel need to be equipped with adequate knowledge regarding not only music therapy, but other non – pharmacological techniques like breathing techniques, relaxations, meditation etc..

Implications for Nursing Administration

1. These findings will really help the administrators to encourage the nurses to implement music therapy in maternity unit.
2. Also the administrators plan to arrange a continuing nursing education programme for nurses regarding non pharmacological measures.

Implications for Nursing Research

Extensive research must be conducted in this area to identify the physiological effects of music therapy in improving pain tolerance.

This study can be baseline for future studies to build upon

1. The study is done on sixty samples; hence generalization is possible only for the selected sample.
2. Regarding sampling technique, the research had planned to use simple random sampling, but it was not possible, hence purposive sampling was used. So generalization must be done cautiously.
3. The investigator did not have a control on nurses and doctors.

RECOMMENDATIONS

1. Similar study can be conducted with large in size of population.
2. The effect for music therapy can be assessed in combinations with other relaxation procedures like meditation, paced breathing and touching to reduce the level of labor pain perception.
3. Similar study can be conducted with other types of music.
4. Comparative study can be conducted with primi and multi gravida mother.

APPENDIX - VI

SECTION - II

PAIN ASSESMENT SCALE:

VISUAL ANALOG PAIN PERCEPTION SCALE

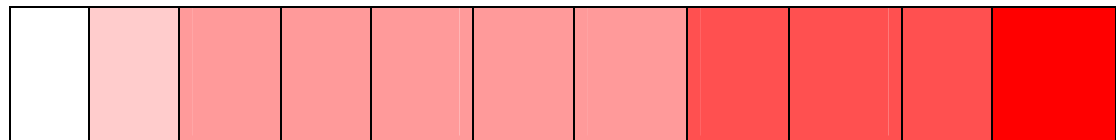
INSTRUCTION:

The interviewer is requested to show the visual analog chart to the primi mother during labour

Pain and inform her to kindly specify the level of pain referring the color dark red color is excruciating

Pain white is no pain then mark that score in observation.

0 1 2 3 4 5 6 7 8 9 10



Nopain Mild Moderate pain Extreme pain excru
ciating
pain

0 = NOPAIN
1 = MILD PAIN
2 - 6 = MODERATE PAIN
7 - 9 = EXTREME PAIN
10 = EXCRUCIATING PAIN

APPENDIX - V

SECTION -I

TOOL DEVELOPED DATA COLLECTION IN ENGLISH

INTERVIEW SCHEDULE ON THE LABOUR PAIN AMONG THE PRIMI MOTHERS

Sample no:

INTRODUCTION:

The following items seek information regarding the primi mothers who got admitted in CMH, Madurai for delivery. Kindly choose the appropriate. The data that are collected will be kept confidential.

1. Age in years:

a] 15 – 25 Yrs

b] 26 – 35 yrs

c] 36 – 45 yrs

☐

2. Religion:

a] Hindu

b] Christian

c] Muslim

☐

3. Educational status:

a] Illiterate

b] School

c] Graduate

☐

4. Occupational status:

a] Home maker

b] Moderate worker (Officer, Govt., Non Govt., Staff)

c] Heavy worker

☐

5. Monthly income:

a] Below Rs 1000

b] 1001 –Rs 3000

c] Above Rs 3001

☐

6. Residential area:

a] Urban

b] Rural

☐

7. Type of family:

a] Joint

b] Nuclear

☐

8. State your usual pain tolerance level

a] Low

b] Moderate

c] Higher

☐

9. Antenatal checkup:

a] Regular

b] Irregular

c] Nil

☐

10. Gestational weeks

a] 28 - 32 weeks

b] 33 - 36 weeks

c] 37 - 40 weeks

☐

11. LMP: _____

12. Time of true labour pain started: _____

13. Cervical dilation:

a] Latent stage 3cm

b] 4 – 6 cm

c] 7 - 9 cm

☐

14. Nature of uterine contraction:

a] Mild [lasting 20 sec]

b] Moderate [lasting 40 sec]

c] Severe[lasting for 60 sec]

☐

15. Administration of labour enhancing procedure / drug

a] Stripping - yes / No

b] Oxytocin - yes / No

☐

SECTION - III-A

MUSIC ENJOYMENT SCALE

1. Have you enjoyed while listening music?

☐

1. Yes

2. No

SECTION – III- B

MUSIC EVALUATION QUESTIONNAIRE

1. Would you like to listen music again?

☐

1. Yes

2. No

a. If Yes why?

b. If No why?

2. Do you think that music played during the time of labour pain provided any kind of support?

☐

1. Yes

3. Please tick the support the music provided.

1. Excellent

2. Very good

3. Good

4. Helpful

5. No change

6. No

☐

APPENDIX - VII



THE VALLIAMMAL INSTITUTION (TVI)

11/6 B.B. Road 2nd St., Pankajam Colony, Madurai-625 009.

☎ 98942 49630 email: ananthibetsy@rediffmail.com

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Education Programme designed and offered by experts) by
effectively participating in theory & practical classes and
successfully completing all the exercises. She has been
placed in **FIRST CLASS**.....*



S. Jeyaprasam

Prof. Dr. S. Jeyaprasam M.Sc., M.A., M.A., Ph.D.,
Director
Rajarajan Institute of Science (RISE)

Ananthi 4/08/2011

Dr. B. Ananthi M.Sc., M.A., M.Phil., Ph.D.,
Director & Secretary
The Valliammal Institution (TVI)

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